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NEWS AND TRENDS . . .
IN CITY DEVELOPMENT

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LOCATION FACTORS FOR OFF-STREET PARKING FACILITIES

By John F. Hendon and Howard D. Leake

Premium Location—A revealing view of surroundings which create top parking demand and bring basic assurance of a profitable operation of a parking service. This facility is located in Birmingham, Alabama. Note that it is very close to the 100% retail corner of the city. It is but ½ block from an office building (1); is immediately behind the largest theatre (2); a few steps across an alleyway or crossing a street puts the shopper into two of the leading department stores, (3) and (4); other retail units (5) and (6) help to swell the terminal demand.

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Plan-itorial . . .

Can Public Transit Come Back?

Announcing a National Contest

Urban transportation today presents a problem, an opportunity, and a challenge. The problem arises because, although public transit is clearly the most efficient method of moving large numbers of people into and out of high-density districts, it is steadily losing patronage. The opportunity lies in the great potentialities of public transit as a means of relieving street congestion. The challenge, of course, is to bring public transit back into the picture.

To encourage more thinking along these lines, the Urban Land Institute is conducting a nationwide contest to develop plans for popularizing the greater use of public transportation. Details of the contest were revealed to the press on March 3 by U.L.I. President, John McC. Mowbray:

The competition will be open to transit systems and their executives and to municipal and county officials, journalists, editorial writers, and others having a direct interest in persuading downtown workers and shoppers to use buses and street cars instead of crowding the streets with private autos.

The entries will be judged by a jury composed of nine well-known business men, transportation specialists, and city planners. The members of the jury are: Harland Bartholomew, city planning consultant, St. Louis, and chairman of the National Capital Planning Commission, Washington, D. C.; H. L. Bollum, president, Springfield Street Railway Co. and past president of the American Transit Association, Springfield, Mass; Randall H. Cooper, president, State Street Council, Chicago; Thomas M. Green, vice president in charge of planning and development, R. H. Macy & Co., New York; Dean E. T. Grether, School of Business Administration, University of California, Berkeley; Eugene S. Loughlin, chairman, Connecticut Public Utilities Commission, Hartford; Thomas L. Prendergast, vice president and treasurer, Wanamaker's, Philadelphia; Gerald Sivage, treasurer, Marshall Field & Co., Chicago; James B. Webber, Jr., vice president and general manager, The J. L. Hudson Co., Detroit.

The Urban Land Institute is sponsoring this contest in the belief that it will bring forth workable and successful plans for making public transportation more attractive to the public and for selling the public on the advantages of the improved service.

The result will be to reduce the amount of downtown traffic and thus make it unnecessary to spend large sums widening streets and constructing new freeways and off-street parking facilities to accommodate the large and increasing number of passenger cars which now present such a grave problem to many of our cities.

In addition, the public will benefit from lower transportation costs and better service. Downtown merchants will have less cause to worry about loss of business due to traffic congestion.

The savings realized when the volume of traffic is reduced then can be devoted to the equally serious and all-too-neglected problem of conserving and redeveloping our older downtown areas.

Separate awards will be made for entries from cities with a population of 500,000 or more and for cities with a population of less than 500,000. In each case, the best entry will receive a Certificate of Exceptional Merit and the five other entries ranked highest by the jury will receive Certificates of Merit.

The deadline for the receipt of entries is October 1, 1954. Awards will be announced and presented not later than December 1, 1954.

Entries must be typewritten and may be supported by photographs and other materials which help to explain the ideas set forth.

It is the sincere hope of U.L.I. that this contest will serve to focus many qualified and experienced minds upon a very serious problem. Throughout the nation, urban transit systems are in a far from healthy condition. Some have already died. More will follow unless major changes in our thinking can be brought about. Public transit must be retained, not necessarily for its own sake but because our cities need it.

Members of U.L.I. are urged to promote this effort by entering or getting the local transit company, city planning engineer, chamber of commerce, and real estate board to submit entries. Details of the contest will be sent upon request.

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PLAN ANALYSIS SESSION IN SAN FRANCISCO

The next Plan Analysis Session of the Community Builders' Council, as announced at the winter session in Chicago, will be held on May 27, 28 and 29, 1954, at the Palace Hotel in San Francisco.

This session, like that held last May in Houston, is informally referred to as the "spring" meeting of the Council. It may seem that "spring" comes late this year, but, as usual, the scheduled time must be fitted in with other meetings and membership activities. But this meeting will provide an exceptional opportunity for the West Coast members to attend. (Fall meeting will be in Toronto late in September.)

Subdivision, community development and shopping center plans of Council members will be reviewed by the Council's Executive Committee, under the chairmanship of Hugh Potter. As is customary, the San Francisco meeting is restricted to sustaining members of the Urban Land Institute affiliated with the Community Builders' Council.

The field inspection trip on Friday, May 28, will be of interest because of the residential community and shopping center developments in the Bay area that will be included.

It is necessary for members who expect to attend to advise the office immediately. Scheduling of review time will be in the order requests are received. The Vu-Graph again will be used for the technique of plan presentation.

LOCATION FACTORS FOR OFF-STREET PARKING FACILITIES

By John F. Hendon and Howard D. Leake

Editor's Note

Off-street parking for the automobile is more and more becoming a firmly established land use in the central business districts of American cities. When operated as a private business, it is in direct competition with the retail store and the office building for space in terms of location and land costs.

But less is known about its requirements as a business operation than almost any other downtown activity. So URBAN LAND asked John F. Hendon, President of Hendon & Company of Birmingham, Ala., who is also President of the National Parking Association and author of "Private Enterprise in the Parking Field" (see URBAN LAND, November 1950), "to take down his hair" and give us the benefit of his twenty-seven years of locating and operating parking facilities in nine cities. Mr. Hendon, aided by Howard Leake, Secretary-Treasurer of Hendon & Company, has done just that in the following article. In doing so, they have shown that the parking business has become a highly specialized field of endeavor involving many facets in addition to those recognized by the highway engineer.

In the early days of the parking industry, selection of a location in which to provide parking service presented no complicated problem and very seldom required vital decisions. You found a vacant lot or an obsolete building of no particular marketable use, somewhere near an extraordinary (for those times) terminal demand, and gave it a whirl. Your most useful piece of equipment was probably the apple box or the second-hand chair where much of your working time was spent.

If the venture proved a mistake and unprofitable, not too much was lost in the plunge. Rentals were at a minimum and lease periods were short and shot through with termination privileges for both parties. Our own organization got started in a combination location in which the backbone of income was a service station unit and parking income an increasingly interesting incidental. The "incidental" has now become the major component of our business.

Compare the early simplicity of location of the parking station with the multiplicity of factors with which you must wrestle to reach a conclusion in these recent years, which have seen the maturity of the parking business. A $3 billion industry competing actively with other leading businesses for a key location in city cores may never be described as having an easy, simple course in its expansion. The path to a decision involving millions of dollars, a half-century of time, or perhaps the entire stake you possess personally, can be nothing else but rugged and troublesome.

The old Hippodrome site at 43rd Street and the Avenue of Americas, New York City (population 7,871,000) is being devoted to a combination of retail frontage on the ground floor and parking on the upper four floors. This involves property which is valued at $3 million for the 48,000 square feet of surface area. In the improvements $1 million are being invested. The Pershing Square underground project of Los Angeles (population 1,950,000) required a $5 million investment and a bold approach to some engineering unknowns. These are not actions based on casual rule of thumb decisions. They also carry the usual concomitants of agony in the decision and of anxiety following the decision, whether they are $5 million projects to the wealthier men or $500-a-month leases to the smaller fry.

Our company possesses 70 leases on parking locations which we have chosen in nine cities of the South. Many have presented us with excellent results, and most of them we rate as good. Occasionally, we hit into a double-play which finds us wondering if the experience was worth any of the out-of-pocket cost. So often the double-play results from a strange and unusual type of curve pitched to us by the surrounding conditions and circumstances.

Probably the most memorable blank drawn was our experience with a location in Atlanta (population 331,000), located on Marietta Street within good walking distance of the Five Points financial district. We knew this was a certainty and had made full preparations to get underway, when a recapture in event of sale of property was exercised by the owner. We subsequently learned that the Federal Reserve Bank, adjoining the property we were to operate, had paid some $100,000 more for the site than they had refused to pay a short time previous to our advent on the scene.

We thought perhaps the Federal Reserve would let us operate until they could build and approached them about this. Then is when we learned that the big reason for the greatly increased desire for the property was the fact that the president's office was on the side of the bank towards the parking location and it was felt that the noise from the parking operation would be annoying to him. This, despite the fact his office was next to one of the busiest and therefore noisiest streets of Atlanta; also, despite the fact his office had the noise insulation values of air conditioning. Of further interest was the development shortly thereafter in which employees' cars were permitted to park in the area.

This is an experience which has shown how costly and disturbing a recapture clause can be at times.

From a study of both good and bad experiences over the past quarter of a century, we have evolved analytical procedures which give us a satisfactory amount of confidence in the resulting conclusions reached regarding a location for a parking facility and its income potential. In this day of keen competition and resulting high rentals and high values of real property, income potential must be measured with a fair degree of exactitude, or else you may lose all on an excellent location. However, calculated risks must be faced in parking as in other industries, for some of the influences or possibilities are so difficult of measurement as to become blind guesses. For instance, will the rumbling threat of municipal entrance into the parking business become a reality? Or again, what will be the traffic pattern in the abutting streets next year? How well sold are the people on the usefulness of the parking service, and what will

they therefore pay with good grace and continued patronage?

The parking industry is a child of traffic congestion. In discussing the technical angles of the location and arrangement of parking facilities, we are going to assume that there is enough congestion for one reason or another to create a **paying** demand for off-street parking service. In analyzing prospective locations for parking expansion in new cities, our field men have the first decisions to make regarding this paying congestion, brought about either by the size of the city or trading area and ownership of automobiles therein, or by the character of the streets and the parking and the traffic patterns thereon.

Get Customer Close to Destination

Proximity to terminal demand is the common factor of all successful parking facilities, known to or assumed by all people who give the matter a thought or two. The American uses his automobile for comfort, convenience and speed. Proximity of parking facilities to his destination is an integral part of that use.

The location analysis which we have developed emphasizes, therefore, the furnishing of maps and measurements by investigators, which depict rather fully the distances which a considered location bears to terminal demand or demands. We think of 3½ to 4 blocks now as being within the circle of consideration. This distance was less 10 years ago. It will be farther as years pass and congestion requires owners to leave their cars farther out, and memories recall less clearly the availability of parking close-in, either on or off-street.

The relationship of the location to the 100% retail district, or to the general hard core of the city is most important; although of late the proximity to one terminal demand of transient character and good volume has shown that the foregoing required general proximity may be pushed a bit aside in its importance. Of good example is the rapid expansion of the activities of Parking Associates Groups of California, headed by Walter W. Briggs, of Los Angeles. They have developed a fine public service and a source of good profit in handling the huge parking demand which is a part of the operation of five major airports of the country—La Guardia Field and Idlewild in New York; Washington, D. C.; Chicago Midway Airport; the Los Angeles International Airport. They have led the way in the discovery of a new channel of the parking service.

The big promise of substantial gross is in transient parking, so location values in a parking man's view reach their highest level in that location which becomes feasible to obtain nearest the peak places of transient demand. From these preferred places values decrease according to increase in distance to destination or poorer character of terminal demand. The field man is quick, therefore, to pin point on the map for particular study the following major terminal demands, rated in their relative positions as providers of stable, voluminous and good paying turnover traffic:

(1) Better department stores
(2) Professional buildings, particularly medical
(3) Specialty shops in groups
(4) Leading hotels
(5) First-run or large theatres
(6) Popular restaurants
(7) Railway and bus terminals.

If a location is available in the close midst of all these, with most of the other factors favorable, then you obtain a distinct and clear idea of what the parking operators might designate as plus-premium.

Other factors which are required to be favorable are legion, and they have the disconcerting habit of popping up in new and strange forms as time passes. The analysis schedule requires close scrutiny and correct interpretation of such items as

(1) Size of available area
(2) Rental costs or purchase price
(3) Development costs
(4) Traffic patterns and counts—automobile and pedestrian
(5) Capacity of streets
(6) Municipal attitudes and controls
(7) Automobile registration
(8) Per capita income and spending habits of people
(9) Retail sales volumes
(10) Availability of expansion area
(11) Competitive conditions.

How Big an Area Is Needed?

In Mobile, Alabama (population 127,000) a few years ago we looked with interest on a small plot of ground in the rear of one of the city's outstanding department stores. A few of the store's employees parked there. Its main use was as a loading and unloading area for the store, and it had all the untidiness such places usually possess. Access to it was by a one-way street.

In the matter of proximity, you could not get any closer to an excellent terminal demand, but the square footage available would carry only 15 cars at crowded capacity, and it was also required that all-time access by delivery truck to the rear of the store must be provided. This last requirement, by the way, is good for a continuous headache and is a big deterrent to parking efficiency.

To overcome the small capacity it was decided to use the site as a shuttle station,—that is, we would accept cars at this station and send them by trained attendants to one of our larger areas several blocks removed. For greater dispatch, direct communication by telephone was established between the two points. The one-way street pattern, which required traveling eight blocks to go two, however, quickly burned us down in the cost of handling and burned up the customer in time consumed. We had just about decided to launch a campaign to do the impossible—to get the traffic directions changed—in order to get out with a little skin left; then we shifted the action to price persuasion. This consisted of an appealing price for one hour or two hours of parking but after two hours the blow to the purse was smarting. The public took to the arrangement in good fashion, permitting us a turnover up to five times daily on occasions, and consequently a satisfactory profit.

Size of area and estimated turnover are practically inseparable as location factors. Use of small areas on high land values are made possible by the frequency of demand and the prices which can be charged. We rarely think of ramp additions on any of the land areas of less than 12,000 square feet, because up to one-third of the original space is sacrificed through construction demands and traffic requirements of a ramp and the supporting columns of the additional deck. Therefore, it is turnover which gives parking utility to the smallest workable areas.

Mechanical parking ideas are flooding the patent offices, many particularly designed to make more efficient the smaller land areas by permitting vertical expansion. We are confident that American ingenuity in design and know-how in production will bring these mechanical ideas in parking to a high plane of adaptability to the needs.

When we start our appraisal of a location, the field reporter of our organization carefully measures the size and also indicates the various parking pattern possibilities, whether surface or

building improvement is in the picture and what traffic movement is involved in the operation of the station. A fifty foot lot on a corner, permitting use of street and sidewalk areas for maneuvering and a "solid pack" parking pattern, is more efficient and lucrative than the inside 50 foot lot. Likewise the inside 50 foot lot which provides one-way traffic by access to an alley in the rear or another street has better potentials than one blocked in the rear.

Can Competitive Rents Be Paid?

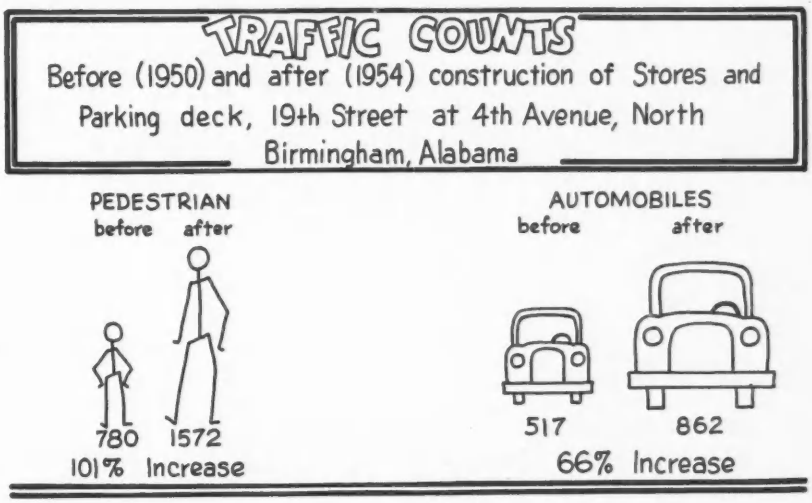
If the proposed location is within good walking distance of where people want to go and is of workable size, both of which are comparatively easy to measure and judge, the biggest question of all looms—what rental can be paid? The parking industry sells space, and because the space necessary to park an automobile varies with different types of facilities, different parking patterns and other conditions, the rental of one square foot becomes a significant and usable measurement.

Our organization is paying for ground area as low an annual rent as 12¢ per square foot and as high as $2.04. The last figure is too high a rental for a purely surface parking business in Birmingham, Alabama, and it becomes therefore a typical instance of action we have taken to reduce the per square foot rental by adding the cheaper additional area of a second deck, and of utilizing some valuable retail frontage to assist in carrying the load.

In larger cities parking alone on surface units can pay high rentals because of higher rates which can be charged. In Cincinnati (population 504,000) there is one lot paying $30,000 annually for 15,000 square feet, or $2.00 per square foot, which is used purely for surface parking. It is only 100 feet from a 100% corner, however. In cities of a population of one million or more there are instances of rental reaching $4.00 per square foot; but here again we find usually a combination use of the square foot.

We have in profitable operation in Birmingham, Alabama, an improved parking facility which serves as an excellent example of this combination approach to the rental based on a premium location. It is on a plot measuring 140 x 200 feet, within one-half block of the 100% retail corner of the city.

Our analysis of the potentialities of the location permitted us to approach the Liberty National Life Insurance Company with a rental offer favorable enough to induce them to make a successful bid to purchase the property, an amount in excess of $700,000. This rental included $1.45 per square foot annual rent plus guarantees of $100,000 in improvements.



Traffic Jump—The above pictorial comparison emphasizes the effect on the traffic of the abutting streets caused by the establishment of a parking facility. The figures shown are the averages of traffic counts taken on both abutting streets at a peak hour on representative days. It is a concrete deck type, with retail stores occupying the street-floor frontage.

We had the improvements in mind before starting the negotiations with the insurance company, for they were necessary to our purposes and plans. A second deck for parking meant only a construction investment of approximately $3.00 per square foot. When this improvement cost was averaged in with the land cost of $25.00 per square foot we obtained an average investment per square foot cost which was more suitable to our use and expectations of making the required return thereon.

Careful pedestrian and traffic counts were conducted on the two abutting streets of this corner property. These were materially helpful in making the decision to go into the contract and in planning the subsequent building of the second deck and of devoting frontage to retail establishments. The liveness of the location from a retail standpoint is indicated by the fact that The Outlet, a subsidiary of the huge Diana Stores chain, is occupying a large frontage with a very successful unit.

In this combination we have found a better use for the property than anyone else could find, if advertisement and competitive bids made for the property are acceptable criteria. By the combination of parking and retail stores, the maximum use of all possibilities of the site seems to be realized.

The preliminary traffic counts were also of positive assistance in determining the location of the entrance of the parking facility and size of the reservoir. They called for use of the heaviest pedestrian side for retail frontage entirely. The other side was clearly the auto traffic side, and of heavy character in this respect. For this 150-car capacity unit, a take-in reservoir of 30 automobiles has been provided and found most efficient in handling peak-load demands.

Traffic Counts Are Revealing

It is interesting to compare the counts made of automobiles and pedestrians before the facility was constructed and what they are today.

	One Hour of Peak Period of Average Day 1953	One Hour of Peak Period of Average Day 1954
Pedestrians		
Fourth Avenue	515	1,156
Nineteenth St.	1,045	1,988
Automobiles		
Fourth Avenue	664	971
Nineteenth St.	370	752

Mr. John Chichester, a widely recognized appraiser of property values in Birmingham and its vicinity, recently set the value of this property facing 19th Street at $3,000 per front-foot. His evaluation of the frontage on 4th

Avenue was $1,200 per front-foot. This again confirms that the pedestrian is still king of the factors creating property values in the retail district. We also have further confirmation of the fallacy that heavy, vehicular traffic creates high land values. Here clearly the values go to the side of the pedestrian and not the automobile.

Study of the comparison of the results of the traffic counts before and after the establishment of this combination parking facility has produced some intriguing possibilities of further use of traffic counts in evaluating the effect of a parking facility on surrounding properties and also on the property occupied.

We have underway similar "before and after" traffic count studies in Atlanta and New Orleans on sites we have designated as being prospective for improvement. In Atlanta we face such critical questions as improvement with or without using ground floor frontage for stores, and of creating one, two or three decks of parking. In New Orleans, the decision to be made is whether or not the demand for parking service is sufficient to warrant a one-deck investment which can be used only for parking.

Although we feel the sample taken in the Birmingham case is sound and fair, we expect future similar studies to be of greater coverage in hours of day and days of the year. Furthermore, the studies will be extended in territorial coverage through the auspices of the National Parking Association, which will get other operators throughout the nation to make similar samples.

We expect these studies will lead to revealing and definite conclusions regarding, among others:

(1) The relationship of traffic counts and parking site evaluation.

(2) The relationship of traffic counts and parking demand for operation calculations.

(3) The extension of (2) into establishment of retail values per car stall, in ratio of distance of stall from generator.

(4) Feasibility of establishing a facility on a given location by calculating its effect on density of adjacent traffic, or what capacity should be created if feasible.

These traffic count studies will be applied to all types of parking facilities in order to ascertain differences in result in accordance with types. This also should produce a method for measuring the effect of gaps in retail frontage and cross-sidewalk traffic which parking facilities create.

Development Costs Are Important

There are many items which enter into the expense of preparation for the parking service. These, like facing insurmountable rental demand, may deter further action because they, too, can explode the promise of profit. The field man is trained to check sources of heavy costs before making a final decision.

When there exists an improvement on the site under consideration, which must be abolished, the leading questions are again those of cost:

(1) Cost of razing the building

(2) Cost of the substitute improvement

(3) Cost of loss of use of property

(4) Cost of time to develop public use of services.

We have paid as high as $12,500, with no salvage return, to get a four-story brick and stone city hall demolished in Birmingham. Three months were required for demolition. We razed a brick theatre in Mobile for which a contractor paid us $3,000 and took two months to remove. In between these we have had many different costs depending upon a great variety of conditions to be met.

Even a surface unit can hit disastrous costs in matters of leveling, filling, excavating and paving. People do not like to drive ramps, but prefer surface areas level to street and parking area of gentle grade at most.

All these items are carefully measured and added together to bring a square foot cost, or a cost per car space, which may require 200 square feet to 350 square feet, depending upon the type of facility, the methods and pattern of parking.

One of the marked differences between private enterprise and municipal provision of parking stalls is the comparative costs which are reported. Private enterprise, fighting for the profit margin, arrives at the minimum cost and most efficient layout. The municipal approach may be characterized by one or several results desired other than an acceptable profit margin, not the least of which is continuing political advantage and support. Others are nepotism and pork-barrelling. For example, the two magnificent parking units provided cooperatively by the business men in Minneapolis under the name of Downtown Auto Park, Inc., furnish stalls constructed at an average cost of $1,059 each. On the other hand, a check of the building costs of the City of Pittsburgh reveals an average cost of $2,562 per stall. The following expense items incurred in Pittsburgh would scuttle private enterprise plans and efforts:

		Per Stall
Interest during construction	$315,000	$219
Development expenses	200,000	139
Legal and financing expense	192,000	134
		$492

"Today's investment costs in building construction per car space range from a low of $600 to $1,500 for private enterprise projects; from $1,200 to $3,000 for municipal projects." Such is a recent summary statement of construction costs made in *Parking* (Winter 1954 issue), published by the National Parking Association. The same article goes on to say that "it takes $7.75 in equal monthly payments to amortize $1,200 in building costs at 6 per cent over a 20-year period."

In cities of larger population, greater congestion and larger per capita income, the better becomes the possibility of turnover and greater is the price that can be charged for the service. This means that parking can invade the higher priced property areas of larger cities to obtain premium sites relatively similar to those obtainable in smaller cities.

Calculating Turnover

To proximity and basic costs add the factors of rate of turnover and prices chargeable and you have the major quartet which influence a decision on a location. The interrelation of all factors makes the concrete measurements difficult and emphasizes the need for general good judgment on the part of the operator in evaluating the whole picture.

Proximity to a much sought destination brings the demand which could lead to excellent turnover if properly handled. The prices charged and their variation in terms of time limits will increase or decrease turnover. The higher the prices which can be charged and the greater the turnover, the more return can be paid on the property; and so on to indescribable complexity.

Other physical factors which must be considered in the measurement of potential turnover are:

Traffic Blocks—Pictured here is a car leaving a modern 3-deck parking facility in Birmingham and attempting to enter the heavy traffic flow. This facility is located on the intersection of heavily-traveled streets—a good location in terms of parking demand but one which loses production efficiency because of traffic congestion in abutting streets.

(1) *Traffic patterns.* One-way street systems, by creating a round-about approach, will reduce demand, particularly if the prospective customer must pass other parking facilities on the way, which also possesses proximity. In Mobile, Alabama, a losing location on Joachim Street near Government Street, was put in the profit column by persuading the traffic department of the City that we could help keep cars from the heavily congested center of the City if a left turn were permitted to allow people easier access to our location.

(2) *Competitive Conditions.* The presence or lack of curb meters and the effect of good or poor enforcement of curb parking regulations, are to be considered. Locations and operating efficiency of competitors in the industry must be evaluated very closely. A fair sample by hour and by day of business done by a nearby facility can be a most helpful measuring stick.

(3) *Capacity and Use of Streets.* A narrow street, or one subject to frequent jamming or slowing, will diminish the normally expected traffic count and slow up the emptying processes of the facilities. Proximity of exits to heavy cross traffic will prove to be a handicap.

(4) *Magazine Capacity.* Space and arrangement should be available to provide a magazine or reservoir ample enough to take off large numbers of cars at one time. The maximum possible volume must be handled during the peak hours of demand. Excellent results are obtained from a ratio of one reservoir space to five permanent parking stalls. A ratio of one to ten will be found satisfactory. In the foregoing measurements the type of operation in mind is one found in a premium location with high rate of turnover. Required reservoir space will naturally vary with the volume of demand which a location is expected to face. Lack of reservoir space may be overcome to a great extent by increasing the number of attendants, but this is obviously a costly answer.

It is hoped that traffic departments of cities will eventually permit abutting curb spaces of streets to be allocated to parking facilities for reservoir space and as a special exit lane into traffic instead of using them for on-street curb parking. Availability of the curb lane in these two respects means more efficient use of the facility; and by creating a very substantial reservoir, will serve to lessen cruising around the block while waiting to enter the parking facility at peak periods.

We have noted that there is a precedent being established along these lines by the City of Birmingham. People seeking to park in the free facility of the First National Bank, are permitted to stand in processional line along the curb for several hundred feet. Similarly, the traffic regulations of an alley are waived to permit "stacking" cars approaching the auto teller windows of the Birmingham Trust National Bank. These instances are duplicated many times throughout the nation, and lend encouragement to the idea of future cooperation with commercial parking facilities.

What Can Be Charged?

Capacity multiplied by turnover, and again by average rate per car, will give the estimated gross receipts from parking. Add to this the extra income from other sources to find the total gross income to be budgeted for the proposed parking facility. From this point it is but a short step to the profit or loss estimate. Turnover is calculated by dividing the estimated volume of cars handled by the one-time capacity of the facility.

The calculation of the parking rates which may be successfully applied to a proposed location is governed in major respects by the competition faced by the location. The rates posted by the nearest operator working under approximately equal conditions becomes a good foundation on which to create a preliminary rate structure, higher or lower in amounts, more flexible in time limits, or with other differences which advantages or disadvantages found in comparing the two sites may dictate.

Lacking a nearby competitor operating under similar conditions, comparison may be made with a similar location within the same city or in another city of similar character. The field investigator is required to make such comparisons and to indicate the aspects in which the two or more locations are alike.

To bring the cities into comparative focus, such economic data as the following are gathered from the usual sources:

(1) *Automobile Registration.* This requires separation of truck and passenger vehicles, and if available, a breakdown of these two groups under city and trading area, or county. The total number of passenger cars in the trading area provides the figure of basic potential demand. The number of automobiles registered per 1,000 population is an important figure for

comparison with other cities of known ratio and related parking demand.

(2) *Per Capita Income.* This figure will reveal much regarding spending habits of people and, combined with the general business character of a city, provides an excellent comparative factor in revealing parking habits, or potentials. A city characterized by a large percentage of population engaged in low income vocations is not going to be very enthusiastic about paying for off-street parking.

(3) *Retail Sales Patterns.* The number, type and gross sales of department stores is another useful piece of information regarding buying habits. This information is particularly valuable if the store may be a possible generator of demand for a proposed parking facility.

It is better to be low than high, so conservatism is required in pricing the parking service.

In our company's files are many years accumulation of income analyses covering operations of all types, sizes and locations. From these detailed records have come averages which are reliable and applicable to a wide variety of operations. They have proven useful tools in establishing rates and general rate policies. A typical analysis is shown below:

Income Breakdown by Hours
100% Location—3 Levels
265 Car Capacity

Day Parking	% Income Derived
½ Hour Parking	2%
1 Hour Parking	6%
2 Hour Parking	20%
3 Hour Parking	21%
4 Hour Parking	13%
5 Hour Parking	7%
6 Hour Parking & over	7%
Night Parking	20%
Miscellaneous	4%
	100%

From the estimate of gross income, the investigator of the parking location proceeds to subtract his estimated operating expense to reach his final conclusion and recommendation regarding the location. Again we have excellent average percentages of gross which experience and detailed records have shown through the years should be expended in the ordinary channels of operation. Along this line, as an example, are the averages ascertained during the 1952 operation of stations in Chattanooga, Tennessee. Except for a deck structure, which is used purely for parking, all other ten units are of the surface type. In terms of percentage of gross income, the expense summary in this operation was:

ITEM	% of GROSS
Rent	35%
Payroll	30%
Supervision	19%
Other	5%
Total Expense	89%
Net Earnings	11%
Total	100%

These operating budget estimates are simple or are loaded with detailed calculations depending on the absence or presence of innumerable variables and influences which characterize locations. Most of these variables can be measured and evaluated but there are many which can be handled only by the "feel" of the situation, which comes only through long operational experience.

How Big Shall It Be?

Our first interest is in the original size of the area in the location surveys and secondly in the prospects for expanding the original area. This last can be a very heavy factor in decisions. It is always good to know that possibilities are present for starting on a conservative space pattern which later may be enlarged if demand requires it. Also, the possible expansion area is always scrutinized on the chance that it may provide a cheaper per-square-foot rental cost and thus permit a lower level of rental cost for the entire project.

There are several instances in which we have begun with the minimum required and grown with the demand as definitely known. Reasons may have been one or both of the following:

(1) To pay for expansion as we go

(2) To be more assured of economic stability and maximum return on investment.

The experience of some of the large suburban shopping centers in trying to meet parking demand gives a clear-cut idea of how quickly you can reach a maximum distance which the customer will walk. Four hundred feet is about the limit, regardless of how much area is had beyond. Here also traffic congestion is an everpresent irritation in the areas closer to the stores.

You can just as easily reach marginal operation by expanding vertically as you can horizontally. This is brought on by the increased cost of handling or by increased delivery delay in the case of an attendant operated facility; or again, by the drive and return distance if self-parking is involved.

When additional space in the form of a multiple deck is being considered, fairly exact rules can be determined for discovering the point of diminishing returns in capacity size. With the known factors of construction cost per car space, the investment cost of additional spaces soon can be calculated by applying the term of the ground lease or, in the case of property ownership, the amortization over the expected life of the building. The number of decks or spaces to be added is a matter of calculating the use which will be made of them in the face of the added labor and handling costs. These costs rise abruptly as additional levels are created. The percentage of gross income alloted to labor cost can be ascertained quite accurately by an experienced operator, who can measure acceptance and delivery time of cars parked on different levels.

In our organization, interest in vertical space slows and levels out with the third deck of the ramp-type garages.

A well-located garage in Miami furnishes monthly parking for $10 per month if you drive your own car to the fourth and outside floor. Otherwise, you pay $25 per month for parking service in the facility.

Not the least of the concern with size is the ability of adjoining streets to handle traffic generated by the parking facility, particularly during periods of greatest intake and unloading. A fair degree of dispatch is necessary. Otherwise the facility can become a much poorer prospect for profit than originally contemplated.

ZONING BOOKLET AVAILABLE

Since its first publication in 1950, the 43-page booklet "Zoning and Civic Development," issued by the Chamber of Commerce of the United States, has been widely distributed and acclaimed as a lucid and authoritative presentation of the principles of modern zoning. It was prepared to promote better understanding by business leaders of the part that good zoning can play in community progress. Max S. Wehrly, Executive Director of U.L.I., served as secretary of the five-man committee appointed by the American Institute of Planners to prepare the text of this bulletin.

Through the accident of a printer's over-run, a limited supply of these booklets has been made available by the Chamber for distribution by U.L.I. While they last, single copies will be sent to Institute members upon receipt of a written request addressed to U.L.I.